

REMARKS

Claims 1-39 are pending in the application and have been examined. Claims 1-39 stand rejected. Claims 1-10, 14, 15, 17, 18, 25, 29, 30, 32, 33, 38 and 39 have been amended in this response to clarify various embodiments of the invention. Claims 40 and 41 have been added in this response. Applicant respectfully requests reconsideration and allowance of Claims 1-41.

The Rejection of Claims Under 35 U.S.C. § 112, Second Paragraph

Claims 4, 7, 8, 9, 14, 15, 17, 18, 25, 29, 30, 32, 33, and 39 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to set forth the subject matter which applicant regards as the invention. Claims 4, 7, 8, 9, 14, 15, 17, 18, 25, 29, 30, 32, 33, and 39 have been amended to provide proper Markush or alternative claim language as appropriate. As suggested by the Office Action, Claims 4, 25, and 39 have been amended to delete the term "asphalt" due to the apparent redundancy with the term "bitumen." With respect to Claim 35, applicant submits that no amendment is necessary because the term "bitumen" serves to further define the invention. Withdrawal of this ground for rejection is respectfully requested.

The Rejection of Claims 1-10 Under 35 U.S.C. § 102(b)

Claims 1-10 stand rejected under 35 U.S.C. § 102(b) as being anticipated by each of the following references: U.S. Patent No. 4,102,694, issued to Sasaki et al.; U.S. Patent No. 4,331,622, issued to Doi et al.; and U.S. Patent No. 5,498,384, issued to Volk et al. The Office Action sets forth the position that each of the above cited references is anticipatory because each singularly discloses a composition comprising a vegetable oil, a structural material and a catalyst. In particular, the Office Action refers to Claims 4, 8, and 11 of the Sasaki reference, Claim 18 and Col. 7, lines 43-65 of the Doi reference, and Claim 15, the abstract and Col. 1, lines 57-68 of the Volk reference. Applicant respectfully disagrees.

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Independent Claim 1 has been amended to clarify that the load bearing composite of the present application includes a polymerized vegetable oil, wherein the vegetable oil is substantially within a range of 4% to 20% by weight of the structural material. Support for the amendment can be found throughout the application as filed, for example at page 3, lines 11-18, and page 4, line 28 to page 5 line 32.

As amended, the claimed embodiment is generally directed to a *load bearing* composition comprising polymerized vegetable oil and a structural material, wherein the vegetable oil is substantially within a range of 4% to 9% by weight of the structural material. Applicant respectfully submits that the cited references, either alone or in any combination, fail to teach or suggest the embodiment of amended Claim 1.

The Sasaki reference generally discloses a method for repairing blast furnaces using a composition comprising a refractory material, a bituminous material, which serves as a binder, and a liquid oil, which serves as a fluidity-imparting agent. See Claims 1, 4, and 8. More specifically, the reference describes the liquid oil as providing "a dispersion medium for the base material and binder and permits the whole system to be poured from a nozzle." Col. 2 at lines 40-43. Anticipation requires that each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. MPEP § 2131. The Sasaki reference fails to anticipate the claimed invention because the reference fails to describe a composition comprising polymerized vegetable oil chemically bound to structural materials resulting in a *load bearing* composition. In contrast to amended Claim 1, the Sasaki reference discloses a composition which can be *poured* through a nozzle comprising a bituminous material as a binder and liquid oil as a dispersion medium.

The Doi reference generally teaches a method for manufacturing a microporous film comprising polyolefins and organic fillers used in the manufacture of battery separators. More

specifically, the Doi references describes a method wherein a blend of polyolefin, an inorganic filler and an organic liquid are combined to form a film in a mold, the organic liquid is then extracted leaving a matrix with void spaces, and an organic substance is added which adheres to the outer surface of the film. In some embodiments, the organic substance is a petroleum hydrocarbon or fatty oil. See Claims 1 and 18, and Col. 6, lines 38-54. The composition disclosed in Doi fails to anticipate the load bearing composition of amended Claim 1. In contrast to the claimed embodiment, the composition of Doi contains oil as a protectant coating on the surface of a filmy matrix comprised of polyolefins. Moreover, it is apparent that the composition resulting from the method of Doi does not contain material strength sufficient for load bearing building materials as in the present invention.

Volk et al. teaches a method of production of extrudates from regenerable raw materials. The Volk composition differs from amended Claim 1 because it does not contain polymerized vegetable oil and it requires fully biodegradable biopolymeric materials as the key ingredient with inorganic materials mixed in for strength. It is clear from the Volk reference that the mixing of the ingredients does not result in polymerization of the oil seed grist, because the reference explicitly states the oil seed grist "experiences no chemical and/or thermal modification." See Col. 3, lines 28-32. Moreover, the composition of Volk is "biologically degradable without problems." See Col. 3, lines 8-10. The low material strength of the Volk composition limits its use to building material applications such as thermal or sound insulation. See Col. 2, lines 45-50. This is not the embodiment of amended Claim 1.

Therefore, because the cited references fail to exactly describe the claimed invention or otherwise suggest the compositions of Claims 1-10 which are directed to compositions comprising a polymerized vegetable oil and a structural material, applicant respectfully requests withdrawal of this ground for rejection.

The Rejection of Claims 1-10 Under 35 U.S.C. § 102(e)

Claims 1-10 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,260,326 issued to Muller-Hartburg et al. The Office Action sets forth the position that the Muller-Hartburg reference teaches a composition comprising a vegetable oil, a structural material and a catalyst. Applicant disagrees with the Office Action's conclusions and submits that the load bearing composition of amended Claim 1 is different from that disclosed in the cited reference.

The Muller-Hartburg reference generally discloses a magnesite composition which comprises reactive magnesia as the primary binding agent and a solution of magnesium salts to which fillers are added and allowed to set, resulting in a porous crystalline structure. See Col. 4, lines 6-61. The composition of Muller-Hartburg does not include vegetable oil as a primary ingredient and instead contains magnesia as the primary binding agent. In some embodiments, the Muller-Hartburg reference discloses the use of linseed oil as an optional additive to the composition, wherein from 0.01 to 3 percent linseed oil by weight is stirred in with about 30 percent of calcium hydroxide and added to the composition comprising reactive magnesia. See Col. 3, lines 42-52. To further distinguish the present invention from the Muller-Hartburg reference, Claims 1 and 2 of the present invention have been amended to recite the use of vegetable oil in the range of 4%-20%. Therefore, applicant respectfully requests removal of this ground of rejection.

The Rejection of Claims 11-39 Under 35 U.S.C. § 102(b) as Being Anticipated by Volk et al.

Claims 11-39 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Volk et al. Claims 11, 26, 36, 37, 38 are independent claims generally directed to methods for forming a structural composition and recite the steps of mixing a structural material with a vegetable oil to

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create a composition, followed by compacting and curing the composition. Volk does not teach or suggest such a method.

The Volk reference discloses a method of producing extrudates from regenerable raw materials comprising mixing biopolymeric raw materials such as plant fibers, wool and grist with inorganic materials and processing in an extruder to obtain an extrudate that is preferably biodegradable. See Col. 1, lines 50-64 and Col. 2, lines 53-55. The Volk reference fails to teach or suggest the step of mixing a structural material with a vegetable oil, compacting and curing as now claimed in the present application. Moreover, as discussed above, the Volk reference fails to teach or suggest the use of vegetable oil to yield a structural composition as set forth in the claims at issue. The Volk reference refers only to "oil seed extraction grist" and explicitly states that the oil seed extraction grist experiences no chemical and/or thermal modification. See Col. 3, lines 29-32. Claims 36, 37 and 38 are further distinguished from the teachings of Volk with the additional step of adding a predetermined amount of a catalyst to the composition. Volk does not disclose the use of catalysts in the compositions.

Amended Claim 39 of the present application is generally directed to a structural composition comprising a polymerized vegetable oil, a structural material and a catalyst. As described previously, Volk does not teach or suggest a composition comprising a vegetable oil and a structural material, wherein the vegetable oil is polymerized. Further, Volk does not teach or suggest the use of a catalyst.

As a result, applicant submits that the Volk reference fails to anticipate the embodiments as claimed in Claims 11-39. Withdrawal of the foregoing rejections is respectfully requested.

The Rejection of Claims 11-39 Under 35 U.S.C. § 102(e)

Claims 11-39 have been rejected under 35 U.S.C. § 102(e) as being anticipated by the Muller-Hartburg reference. The Office Action specifically refers to Col. 5, lines 17-48 and

concludes that the reference discloses a method of mixing vegetable oil, structural material and a catalyst to make a composition which is compacted and cured. Applicant respectfully disagrees.

The Muller-Hartburg reference generally discloses a magnesite composition in the form of a panel comprising reactive magnesia as the primary binding agent and a solution of magnesium salts to which fillers are added and allowed to set, resulting in a porous crystalline structure. See Col. 4, lines 38-61. The method of making the panels includes preparing the MgO binder, mixing in fillers, pouring the mixture into panel molds and allowing the mixture to harden. See Col. 4, line 62 to Col. 5, line 48. The cited reference fails to anticipate the claimed method because it does not disclose mixing a vegetable oil with a structural material, followed by the steps of compressing and curing the composition as claimed in the present application.

Further, independent Claims 26 and 37 recite the additional step of heating the composition while mixing, which serves to further distinguish the claimed embodiments from the Muller-Hartburg reference. Finally, structural composition of Claim 39 is distinguished from the teachings of the cited reference by the recitation of the use of polymerized vegetable oil in the range of 4%-20% by weight of structural material and the presence of a catalyst.

Applicant respectfully submits that the cited references, either alone or in hypothetical combination, fail to teach, suggest, or provide a motivation to make or otherwise anticipate or render obvious the embodiments as claimed. Therefore, applicant respectfully requests the withdrawal of this ground of rejection.

New Claims

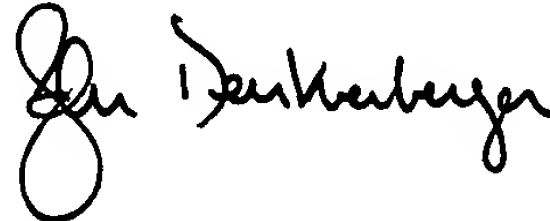
Claims 40 and 41 have been added and find support throughout the application as originally filed. See specification at page 4, lines 3-12; page 5, lines 22-32; page 7, line 1 to page 8, line 5; page 8, line 10 to page 9, line 13, and Tables 1-4. No new matter has been added.

CONCLUSION

In light of the foregoing amendments and remarks, applicant respectfully submits that the present application is now in condition for allowance.

Respectfully submitted,

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